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What is claimed is:

11. A cyclonic device suitable for use in the contacting of vapor and liquid in a distillation or fractionation process, the cyclonic device comprising:

- (a) a floor;
- (b) a continuous side wall having an inner surface, an outer surface, an upper end and a lower end, the lower end terminating into the floor, the upper end defining an upper cyclonic region, and the side wall defining a contacting volume above the floor and below the upper cyclonic region;
- (c) at least one vapor opening in the floor for introduction of vapors into the contacting volume;
- (d) at least one liquid downcomer positioned within the continuous side wall, the downcomer having:
  - (1) a side wall having an upper portion and a lower portion, the upper portion being located in the upper cyclonic region, and the lower portion extending to a point above the cyclone floor; and
  - (2) at least one downcomer port located proximate to the lower portion end of the downcomer, the port defining an opening in the downcomer for introduction of liquid above the floor into the contacting volume;
- (e) a plurality of liquid outlets located on the continuous side wall;
- (f) at least two spin vanes located between the continuous side wall and the downcomer side wall, the spin vanes positioned at or above the mid-point of the continuous side wall; and

(g) a non-spinning zone located between the continuous side wall and the downcomer side wall, the non-spinning zone positioned below the midpoint of the continuous side wall and above the cyclone floor.

17. The cyclonic device of claim 11 wherein the non-spinning zone comprises a packed non-spinning zone.

18. The cyclonic device of claim 11 further comprising sieve holes on the cyclone floor positioned below the non-spinning zone.

19. The cyclonic device of claim 11 further comprising an annular hat for collecting liquids, the hat positioned on the upper end of the continuous side wall above the upper cyclonic region.